



The Effect of Sustainability Committee, Leverage, and Firm Size on Material Disclosure

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Keywords:		Abstract
Sustainability leverage, firm disclosure	Committee, size, material	Sustainability reporting has become increasingly important for Fast-Moving Consumer Goods (FMCG) companies because their business activities rely heavily on packaging materials that contribute to plastic waste generation and environmental degradation. In ASEAN countries, this issue has become more urgent as several nations face significant challenges related to marine plastic pollution and waste management. This study aims to examine the effects of the Sustainability Committee, leverage, and firm size on material disclosure based on GRI 301 among FMCG companies listed on five Southeast Asian stock exchanges. This research employed a quantitative approach using secondary data obtained from sustainability reports, integrated reports, and annual reports of FMCG companies listed on the Philippine Stock Exchange, Bursa Malaysia, the Indonesia Stock Exchange, the Ho Chi Minh Stock Exchange, and the Stock Exchange of Thailand during the 2014–2023 period. The sample consisted of 231 companies with 1,635 firm-year observations selected through purposive sampling, and the data were analyzed using multiple linear regression analysis. The findings revealed that the Sustainability Committee and firm size had positive and significant effects on material disclosure, indicating that stronger sustainability governance mechanisms and larger organizational scale encourage greater transparency. However, leverage did not have a significant effect on material disclosure. This study concludes that governance structures and firm size are important determinants of material disclosure among ASEAN FMCG companies.

INTRODUCTION

Sustainability has become a central concern for businesses, governments, and society due to increasing environmental challenges and growing stakeholder expectations. Sustainability is generally categorized into three main dimensions: economic, environmental, and social sustainability (Otto et al., 2021). One of the most critical environmental concerns is the use of packaging materials, particularly in industries that heavily depend on product packaging. Sustainable packaging aims to minimize the consumption of natural resources while ensuring that materials can be recycled, reused, or remanufactured at the end of their life cycle (Silva & Pålsson, 2022). As sustainability challenges become increasingly urgent, organizations are encouraged to adopt environmentally responsible practices and enhance transparency through sustainability reporting frameworks, such as the Global Reporting Initiative (GRI) Standards (Reichert et al., 2020).

Environmentally friendly packaging has become a significant priority for consumers worldwide (Hudnurkar, 2022). However, the end-of-life management of packaging materials remains a critical challenge, particularly for non-renewable materials such as plastics. When improperly managed, plastic packaging can become hazardous waste that threatens ecosystems and human health (Pålsson, 2022). Plastics remain widely used due to their low cost, lightweight

properties, and effectiveness in protecting products. Global plastic production reached approximately 390.7 million metric tons in 2021, of which 90.2% was derived from fossil-based resources (Plastics Europe & EPRO, 2022). Approximately 44% of all plastic produced is used for packaging purposes, making packaging waste one of the largest contributors to global plastic pollution (Walther et al., 2022). However, only around 2% of plastic waste is recycled into new packaging materials, while the majority is either incinerated or released into the environment, significantly contributing to pollution problems (Ibrahim et al., 2022).

The excessive use of non-renewable materials has serious implications for natural resource availability and environmental sustainability. Consequently, organizations are expected to manage packaging sustainably through responsible product design, material selection, waste management, and recycling initiatives. Southeast Asia, with its large population and rapid economic growth, has emerged as one of the largest consumers of plastic products and a major contributor to marine plastic pollution (Giri, 2023). According to data reported by Meijer et al. in *Science Advances*, several ASEAN countries, including the Philippines, Malaysia, Indonesia, Myanmar, Vietnam, and Thailand, are among the world's leading contributors to plastic waste entering the oceans. These countries differ in terms of income classification, ranging from lower-middle-income to upper-middle-income economies, while Singapore and Brunei Darussalam are classified as high-income countries.

Table 1. Marine Plastic Pollution Contributors

Rank	Country	Annual Plastic Waste (Metric Tons)
1	Philippines	356,371
2	India	126,513
3	Malaysia	73,098
4	China	70,707
5	Indonesia	56,333
6	Myanmar	40,000
7	Brazil	37,799
8	Vietnam	28,221
9	Bangladesh	24,640
10	Thailand	22,806

Sumber: Lourens J. Meijer et al., *Science Advances*

Middle-income countries, in particular, face substantial challenges in developing effective plastic waste management systems, resulting in significant environmental impacts. In response, governments in countries such as the Philippines, Malaysia, Indonesia, Vietnam, and Thailand have implemented or are planning to implement Extended Producer Responsibility (EPR) policies aimed at improving plastic waste management, particularly for packaging and containers (Johannes et al., 2021). Under EPR frameworks, producers are expected to assume greater responsibility for the environmental impacts of their products throughout their life cycles.

The Fast-Moving Consumer Goods (FMCG) industry has become a major focus of EPR initiatives because it produces and distributes packaged products on a large scale (Salsabila & Daljono, 2023). The FMCG sector includes multinational corporations operating in food and beverage, personal care, home care, pharmaceutical, and tobacco industries, many of which rely

heavily on single-use plastic packaging (Raha, 2024). According to the 2022 Global Commitment Report published by the Ellen MacArthur Foundation, The Coca-Cola Company used approximately 3.22 million metric tons of plastic packaging in 2021, representing an increase of nearly 9% compared with 2020. Plastic consumption further increased by approximately 206 thousand metric tons in 2022, reaching 3.43 million metric tons (Oceana, 2022). Despite these substantial volumes, the company reported reusing only 1.3% of its plastic packaging in both 2021 and 2022, indicating limited progress in circular packaging initiatives (Oceana, 2023). As a major producer of packaged goods, the company bears responsibility for packaging design, material selection, collection systems, and recycling efforts in accordance with GRI guidelines.

Sustainability information has become an important mechanism through which companies communicate their environmental and social responsibilities to stakeholders. Sustainability disclosures provide valuable insights into the environmental impacts of business operations and support stakeholder decision-making processes (Tri Setyo Mulyani, 2022). The Global Reporting Initiative (GRI) Standards were developed to facilitate transparent reporting of environmental and sustainability-related issues, including material usage and waste management practices (Caputo et al., 2021). Under GRI 301: Materials, organizations are encouraged to disclose information regarding material consumption, recycled input materials, and packaging waste management, thereby improving transparency and corporate reputation (GRI, 2016). Material disclosure based on the GRI 300 series contributes directly to sustainable development objectives and enhances accountability toward stakeholders (GRI 1, 2023). For FMCG companies, such disclosures are particularly important because rapid product turnover and extensive packaging usage create significant environmental implications (Stewart & Niero, 2018).

Companies operating in ASEAN countries are increasingly required to publish sustainability reports that align with international reporting standards. To strengthen compliance and improve sustainability performance, many organizations establish Sustainability Committees. A Sustainability Committee is a specialized governance body responsible for overseeing sustainability practices, ensuring regulatory compliance, and promoting transparent reporting (Fahad & Rahman, 2020). Such committees play a critical role in sustainability governance by helping organizations align with global standards and improve the quality of sustainability disclosures, particularly in environmentally sensitive industries such as FMCG (Esposito et al., 2023).

Previous studies have demonstrated the importance of Sustainability Committees in improving sustainability reporting practices. Fuente et al. (2017) found that the existence of a Sustainability Committee positively influences corporate compliance with GRI reporting guidelines. Similarly, Caputo et al. (2021) reported that CSR committees contribute significantly to the quality of environmental disclosures required under the GRI 300 series. Baraibar-Diez and Odriozola (2019) further revealed that companies with Sustainability Committees tend to disclose more extensive environmental information than those without such committees. However, Michelon and Parbonetti (2012) suggested that the effectiveness of Sustainability Committees may be limited when these committees are newly established or when their adoption remains relatively uncommon.

Besides governance mechanisms, financial characteristics such as leverage may also

influence environmental disclosure practices. Companies with high leverage often seek to build positive corporate images through sustainability disclosures despite facing financial pressures (Thomas et al., 2020). Environmental disclosure can help reduce perceived risks among creditors and strengthen stakeholder confidence. Nevertheless, Orazalin and Mahmood (2020) argued that highly leveraged firms may prioritize short-term financial objectives, such as debt repayment, over long-term sustainability initiatives, resulting in lower-quality environmental disclosures.

Another important factor influencing environmental disclosure is firm size. Large companies generally receive greater public attention because their operations often have more significant environmental and social impacts. Consequently, larger firms are more likely to engage in transparent sustainability reporting to maintain legitimacy and protect their reputations (Yovana Gledis, 2020; Long et al., 2022). Ardi (2020) found a positive relationship between firm size and environmental disclosure based on GRI Standards. However, Yohana and Suhendah (2023) argued that organizational commitment to environmental responsibility may be more important than firm size alone in determining disclosure quality.

Based on these considerations, this study aims to examine material disclosure practices under GRI 301 among FMCG companies in ASEAN countries. Specifically, this study investigates the effects of the Sustainability Committee, leverage, and firm size on material disclosure. Given the growing environmental concerns associated with packaging materials and increasing regulatory pressure for sustainability reporting, understanding these determinants is essential for improving corporate transparency and supporting sustainable development in the ASEAN region.

METHOD

Research Method

This study employed a quantitative research approach involving companies listed on the official websites of the Philippine Stock Exchange (PSE), Bursa Malaysia, the Indonesia Stock Exchange (IDX), the Ho Chi Minh Stock Exchange (HOSE), and the Stock Exchange of Thailand (SET) during the 2014–2023 period. The population consisted of 1,635 firm-year observations, which served as the basis for sample selection. The sampling technique used was purposive sampling based on specific criteria presented in Table 2.

The study utilized secondary data obtained from sustainability reports, integrated reports, and annual reports published on the official websites of the respective companies during the 2014–2023 period. The data were analyzed using multiple linear regression analysis to examine the effects of the independent variables, namely Sustainability Committee, leverage, and firm size, on material disclosure. The regression model was applied to assess the relationship between corporate governance and financial characteristics with material disclosure practices.

Table 2. Sample Selection Criteria

Criteria	Total
FMCG companies listed on the PSE, Bursa Malaysia, IDX, HOSE, and SET during 2014–2023	295
Companies that conducted IPOs during 2014–2023 but did not consistently publish Sustainability Reports (SR), Integrated	(64)

Criteria	Total
Reports (IR), or Annual Reports (AR) in English throughout the observation period	
Final sample companies	231
Observation period (years)	10

Source: Processed by the authors (2024)

Table 3. Operational Definitions of Variables

Variable	Measurement
Material Disclosure (MD)	According to the Global Reporting Initiative (GRI, 2016), material disclosure refers to the disclosure of information regarding material topics related to a company's operational activities. The measurement is calculated as follows: MD = (Total GRI 301 items disclosed by the company / Total GRI 301 items) × 100%
Sustainability Committee (SC)	A Sustainability Committee is a separate committee established to oversee and manage sustainable business practices. A value of 1 is assigned if the company has a Sustainability Committee and 0 otherwise (Esposito et al., 2023).
Leverage (LEV)	Leverage refers to the extent to which a company utilizes debt financing in its operations. In this study, leverage is measured using the Debt-to-Equity Ratio (DER) (Thomas et al., 2020): DER = Total Liabilities / Total Equity
Firm Size (FS)	Firm Size represents the scale of a company and is measured using the natural logarithm of total assets at the end of the reporting period (Krisnando & Novitasari, 2021): FS = Ln (Total Assets)

Regression Model

To test the hypotheses, this study applies multiple linear regression analysis involving three independent variables and one dependent variable. The regression model is specified as follows:

$$MD_{it} = \alpha + \beta_1 SC_{it} + \beta_2 LEV_{it} + \beta_3 FS_{it} + \epsilon_{it}$$

Where:

MD = *Material Disclosure*
SC = *Sustainability Committee*
LEV = *Leverage*
FS = *Firm Size*
 α = Constanta

RESULTS AND DISCUSSION

Results and Discussion

Descriptive Statistics

To provide a general overview of the research data, descriptive statistical analysis was conducted. This analysis presents information such as the mean, maximum, minimum, and standard deviation values for each variable, as shown in the following table.

Table 4. Descriptive Statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
MD	1,635	0.0424709	0.0692273	0	0.625
SC	1,635	0.1266055	0.3326323	0	1
LEV	1,630	1.057337	3.132209	-31.068	92.5
FS	1,630	18.91535	1.624973	12.193	24.01

Source: STATA 17 Output, processed by the authors (2024)

In this study, Material Disclosure (MD) as the dependent variable was measured based on the method proposed by Safitri and Wahyuningrum (2021), utilizing 15 disclosure items with a total score of 24. Out of 1,635 observations, the average material disclosure score was only 0.042, indicating a relatively low level of transparency among FMCG companies, with a standard deviation of 0.069. Some companies did not disclose any material-related information at all (minimum value of 0), whereas others demonstrated substantially higher transparency levels (maximum value of 0.625).

Sustainability Committee (SC) was measured based on the existence of a sustainability committee following the approach of Esposito et al. (2023). The results indicate that only 12.6% of companies had established a sustainability committee (mean = 0.126), while the remaining 87.4% had not. The relatively high standard deviation of 0.333 suggests considerable variation among firms regarding their commitment to sustainability governance.

Leverage (LEV) was measured using the Debt-to-Equity Ratio (DER) following Thomas et al. (2020). Based on 1,630 observations, the average DER was 1.057, indicating that, on average, FMCG companies held more debt than equity. The large standard deviation of 3.132 reflects substantial variation among firms. The minimum value of -31.068 indicates firms with negative equity, while the maximum value of 92.5 reflects extremely high financial risk due to excessive dependence on debt financing.

Firm Size (FS) was measured using the natural logarithm of total assets according to Krisnando and Novitasari (2021). The average value of 18.91 suggests that the sampled FMCG companies were generally large in size, although considerable variation existed (standard deviation = 1.625). The smallest company reported a value of 12.193 (approximately USD 197,390 in assets), while the largest reached 24.01 (approximately USD 26.77 billion in assets), indicating substantial differences in operational scale and financial capacity among FMCG companies.

Regression Model Selection

Three panel data models are commonly used in empirical research, namely the Fixed Effects Model (FEM), Random Effects Model (REM), and Common Effects Model (CEM). Several tests were conducted using STATA Version 17 to determine the most appropriate model for the data.

Table 5. Lagrange Multiplier Test

Prob > χ^2	α
0.0000	0.05

Source: STATA 17 Output, processed by the authors (2024)

The test results indicate that the probability value of χ^2 is lower than 0.05. Therefore, the Random Effects Model (REM) is preferred over the Common Effects Model according to the Lagrange Multiplier test.

Table 6. Chow Test

Prob > F	α
0.0000	0.05

Source: STATA 17 Output, processed by the authors (2024)

The Chow test produced a probability value of 0.0000, which is lower than 0.05. Therefore, the Fixed Effects Model (FEM) is preferred over the Common Effects Model.

Table 7. Hausman Test

Prob > χ^2	α
0.0000	0.05

Source: STATA 17 Output, processed by the authors (2024)

The Hausman test generated a probability value of 0.0000, which is below the 5% significance level. Consequently, the Fixed Effects Model (FEM) was selected as the most appropriate model for this study.

Classical Assumption Tests

Classical assumption tests were performed to ensure that the regression model met the necessary statistical requirements. These tests include normality, multicollinearity, heteroscedasticity, and autocorrelation assessments.

Table 8. Skewness and Kurtosis Normality Test

Variable	Skewness	Kurtosis
MD	-0.0354796	1.001259
SC	2.245776	6.043509
LEV	0.0735752	1.114320
FS	-0.0271001	4.168230

Source: STATA 17 Output, processed by the authors (2024)

The normality test was conducted using the Skewness-Kurtosis Test. The results indicate that the variables MD and LEV initially did not satisfy the normality criteria because the skewness and kurtosis values were outside the acceptable thresholds established by Lutfi et al. (2023). Therefore, a winsorizing procedure was applied to adjust extreme values and improve the distributional properties of these variables.

Table 9. Multicollinearity Test

Variable	VIF	1/VIF
SC	1.02	0.982291
LEV	1.07	0.938761
FS	1.08	0.927345
Mean VIF	1.05	-

Source: STATA 17 Output, processed by the authors (2024)

The multicollinearity test results show that all variables have VIF values substantially below the threshold of 10, indicating that multicollinearity is not a serious concern in the model. The mean VIF value of 1.05 further confirms the absence of significant correlations among the independent variables.

Heteroscedasticity Test

The heteroscedasticity test was conducted to determine whether the error variances remained constant across observations. Since the study employed the Fixed Effects Model, the Modified Wald Test was used. The results showed a probability value of 0.0000 (less than 0.05), indicating the presence of heteroscedasticity. To address this issue, robust standard errors were employed instead of conventional standard errors. Robust standard errors effectively mitigate the effects of heteroscedasticity and ensure more reliable statistical inference (Robinson, 2015).

Autocorrelation Test

The Wooldridge Test was applied to detect autocorrelation in the panel data model. The test yielded a probability value of 0.000, indicating the existence of autocorrelation. To correct this issue, robust standard errors clustered at the firm level [cluster(id)] were implemented. According to Hoechle (2007), clustered robust standard errors provide valid statistical inference even when certain regression assumptions are violated.

Coefficient of Determination (R^2)

Table 10. R^2 Test Results

Description	Value
Number of Observations	1,630
R-squared (Within)	0.0571
R-squared (Between)	0.0027
R-squared (Overall)	0.0142
Prob > F	0.0000

Source: STATA 17 Output, processed by the authors (2024)

Based on Table 10, the overall R-squared value is 0.0142, indicating that Sustainability Committee, Leverage, and Firm Size collectively explain approximately 1.42% of the variation in Material Disclosure. The remaining 98.58% is explained by factors outside the scope of this study.

Partial Test (t-Test)

The t-test was conducted to evaluate the individual effect of each independent variable on Material Disclosure.

Table 11. t-Test Results

Variable	t-value	t-table	Sig.	α	Result	Hypothesis
Sustainability Committee (SC)	3.55	1.961	0.000	0.05	Significant	H1 Supported
Leverage (LEV)	-1.01	1.961	0.312	0.05	Not Significant	H2 Rejected
Firm Size (FS)	3.71	1.961	0.000	0.05	Significant	H3 Supported

Source: STATA 17 Output, processed by the authors (2024)

The first hypothesis proposed that Sustainability Committee positively influences Material Disclosure. The results indicate a t-value of 3.55, exceeding the critical value of 1.961,

with a significance level of 0.000. Therefore, H1 is supported, indicating that the existence of a Sustainability Committee significantly enhances Material Disclosure.

The second hypothesis proposed a positive relationship between Leverage and Material Disclosure. However, the t-value of -1.01 is below the critical value of 1.961, and the significance level of 0.312 exceeds 0.05. Consequently, H2 is rejected, suggesting that Leverage does not significantly affect Material Disclosure.

The third hypothesis proposed that Firm Size positively affects Material Disclosure. The results show a t-value of 3.71 and a significance level of 0.000, supporting H3. Therefore, larger firms tend to disclose more material-related information than smaller firms.

Simultaneous Test (F-Test)

The F-test evaluates whether all independent variables collectively have a significant effect on the dependent variable.

Table 12. F-Test Results

F-value	F-table	Sig.	α	Result
10.31	2.644	0.000	0.05	Significant

Source: STATA 17 Output, processed by the authors (2024)

The F-test results show that the calculated F-value of 10.31 exceeds the critical F-value of 2.644, with a significance level of 0.000, which is below 0.05. These findings indicate that Sustainability Committee, Leverage, and Firm Size jointly have a significant effect on Material Disclosure among FMCG companies in ASEAN countries.

The Effect of Sustainability Committee on Material Disclosure

The regression results indicate that the Sustainability Committee has a positive and significant effect on Material Disclosure, thereby supporting the hypothesis that the existence of such a committee enhances the transparency of sustainability disclosures. This finding is consistent with the studies of Fuente et al. (2017), Caputo et al. (2021), and Baraibar-Diez and Odriozola (2019), which suggest that the presence of a CSR or Sustainability Committee improves sustainability reporting in accordance with GRI guidelines and enhances corporate transparency.

Although only 12.66% of the sample firms (207 out of 1,635 observations) had established a Sustainability Committee, its presence appears to play an effective role in supporting material disclosure practices. The committee assists management in formulating sustainability strategies, periodically reviewing sustainability performance, and responding to regulatory changes and public expectations. Furthermore, the committee attracts the attention of investors and shareholders because it demonstrates a commitment to global sustainability practices that can enhance corporate value.

The establishment of a Sustainability Committee reflects the principles of Stakeholder Theory, whereby companies strive to address the needs and expectations of various stakeholders. Moreover, the committee serves as a bridge between Stakeholder Theory and Agency Theory by aligning the interests of external stakeholders with the objectives of shareholders. Through this governance mechanism, Sustainability Committees help reduce agency conflicts between managers and owners while simultaneously improving corporate transparency and credibility.

The Effect of Leverage on Material Disclosure

The regression results reveal that Leverage does not have a significant effect on Material Disclosure among FMCG companies listed on the five major Southeast Asian stock exchanges during the 2014–2023 period. Therefore, the second hypothesis (H2) is rejected. This finding indicates that the level of leverage, whether high or low, does not significantly influence the extent of material disclosure.

The results suggest that debtholders tend to prioritize the fulfillment of financial obligations rather than non-financial transparency, making the relationship between leverage and material disclosure statistically insignificant. Approximately 7.28% of firms with above-average leverage and 11.13% of firms with below-average leverage both achieved material disclosure levels above the sample average. This finding further confirms that leverage does not determine the quality of material disclosure.

These results contradict the predictions of Legitimacy Theory, which argues that highly leveraged firms are more likely to increase disclosure practices to maintain legitimacy and stakeholder confidence. However, the findings are consistent with those of Maulia and Yanto (2020) as well as Nurhayati and Kurniati (2019), who also concluded that leverage does not significantly affect environmental disclosure based on GRI standards.

The Effect of Firm Size on Material Disclosure

The partial regression analysis demonstrates that Firm Size has a significant effect on Material Disclosure among FMCG companies listed on the five major Southeast Asian stock exchanges during 2014–2023. Therefore, the third hypothesis (H3) is supported.

Companies with total assets above the sample average (USD 163,996,380) tend to disclose more material information to obtain legitimacy, attract investors, and maintain transparency. Larger firms generally have more intensive operational activities and broader environmental impacts, which increase public scrutiny and stakeholder expectations. Consequently, these firms are more likely to disclose sustainability-related information to maintain a positive corporate image and comply with legitimacy requirements.

This finding is consistent with previous studies by Istiqomah and Wahyuningrum (2020), Ardi (2020), and Maulia and Yanto (2020), which found a positive relationship between firm size and environmental disclosure based on GRI standards. Large companies also tend to demonstrate a stronger commitment to environmental responsibility in order to avoid reputational risks and meet stakeholder expectations.

CONCLUSION

The results of this study conclude that material disclosure among FMCG companies in ASEAN countries remains relatively low, despite the sector's strong dependence on packaging materials and significant exposure to environmental accountability issues. The findings indicate that the Sustainability Committee has a positive and significant effect on material disclosure, suggesting that the presence of a specialized governance body can strengthen corporate transparency, enhance sustainability oversight, and encourage compliance with GRI 301: Materials disclosure standards. Firm size also has a positive and significant effect, indicating that larger companies are more likely to disclose material-related information because they face greater stakeholder scrutiny, reputational pressure, and regulatory expectations. However, leverage does not have a significant effect on material disclosure, indicating that debt levels are

not a decisive factor in determining whether companies provide transparent information regarding material use, recycled input materials, and packaging-related sustainability practices. Overall, this study confirms that governance structures and organizational scale are more influential than financial leverage in shaping material disclosure practices among ASEAN FMCG companies.

Future research is recommended to expand the scope of analysis by incorporating additional determinants, such as profitability, board independence, ownership structure, environmental performance, audit quality, regulatory pressure, and country-level sustainability policies, to improve the explanatory power of the research model. Since the overall R-squared value in this study remains relatively low, future studies should consider broader governance, institutional, and market-based variables that may better explain variations in material disclosure practices. Further research may also compare different industries, extend the observation period, or apply qualitative and mixed-method approaches to explore how companies prepare GRI 301: Materials disclosures internally and how Sustainability Committees operate in practice. In addition, future studies could examine the quality, credibility, and assurance of material disclosures rather than focusing solely on disclosure extent, providing deeper insights into whether corporate sustainability reporting genuinely reflects responsible material management or primarily fulfills formal reporting requirements.

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